

APPLICANTS: Choi et al.
SERIAL NO.: 09/954,515
FILED: September 17, 2001
FOR: PROCESS FOR FORMING ELECTRODES

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REMARKS

Claims 18-28 are pending in this application. Claims 18-28 have been rejected under 35 USC § 112, second paragraph. Claims 18-26 and 28 have been rejected under 35 USC 103(a) as being unpatentable over Yatabe et al. Claim 27 has been rejected under 35 USC §103(a) as being unpatentable over Austin in view of Yatabe et al.

The Examiner has rejected claims 18-28 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner states that in independent claim 18, the term “substantially” renders the claim indefinite, the term “index” is unclear, the term “metallic” is unclear and the unit “ohms/square” is unclear. Applicants traverse these bases of rejection. The term “substantially transparent” is sufficiently described in the specification, e.g., see page 1, lines 12-17. Therefore, the term “substantially” does not render claim 18 indefinite. The term “high index layer” is sufficiently described in the specification, e.g., see page 7, lines 13-19. Therefore, the term “index” does not need to be amended for clarification. The term “metallic” is sufficiently well known to one skilled in the art and is not unclear. However, claim 18 has been amended herein to remove the term “metallic”. The term “ohms/square” denotes sheet resistance, which has an inverse relationship to conductivity as well known to one skilled in the art. As the specification clearly states, in some instances, a layer needs to have sufficient conductivity to provide a required low resistance, e.g., see specification page 7, lines 21-22 and page 8, lines 4-9. Thus, a person of ordinary skill in the art understands that the high index layer is described as having a conductivity with the required low resistance of at least about 400 ohms/square. Therefore, claim 18 is not unclear since the ohms/square term is sufficiently well known to one skilled in the art and is sufficiently described in the specification.

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With respect to claim 19, the Examiner states it is unclear what the conductors conduct. However, the term "conductors" is sufficiently described throughout the specification, e.g., see page 1, line 26 through page 2, line 22 and is not unclear. Furthermore, the term "conductors" is sufficiently well known to one skilled in the art and is not unclear.

With respect to claim 25, the Examiner states it is unclear whether the surface of the substrate bearing at least one of a hard polymer coating and a layer of silica features the substrate surface away from the conductive layer and whether the polymer coating and the layer of silica belong to a Markush group. However, the specification clearly states that the substrate may be provided with coatings on one or both surfaces of the substrate, and the coating may be a hard polymer, a layer of silica, or both, e.g., see specification page 5, lines 4-18 and page 11, lines 1-19. Nevertheless, claim 25 has been rewritten to include the polymer coating and the layer of silica within a Markush group.

Accordingly, claims 18, 19 and 25 satisfy 35 USC § 112, second paragraph.

Amended independent claim 18 recites a substantially transparent electrode assembly comprising a substrate, a high index layer formed on the substrate, a conductive layer formed on the high index layer and a high index top layer having a conductivity of at least about 400 ohms/square formed on the conductive layer, at least the top layer and the conductive layer being patterned so as to divide the conductive layer into a plurality of discrete electrodes.

Independent claim 18 is patentable over Yatabe et al. and Austin because neither of these references, either alone or in combination, shows or suggests a substantially transparent electrode assembly including, inter alia, a high index top layer having a conductivity of at least about 400 ohms/square formed on the conductive layer with at least the top layer and the conductive layer being patterned so as to divide the conductive layer into a plurality of discrete electrodes. Yatabe

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et al. disclose a heat wave reflective or electrically conductive laminated structure composed of a shaped solid substrate, a transparent thin layer having a high refractive index in contact with the substrate, a transparent heat wave reflective layer of an electrically conductive metal in contact with the transparent thin layer, and optionally, a transparent thin layer having a high refractive index in contact with the transparent heat wave reflective layer and a transparent top layer in contact with the transparent thin layer. As the Examiner admits, Yatabe et al. do not show or suggest a high index top layer having substantial conductivity. In fact, the Examiner admits Yatabe et al. teach a high index layer that is electrically insulating. The specification states that the preferred materials and processes for forming the top layer are the same as those for forming the insulating layer, except that the condition used to deposit the top layer should be varied so as to give the top layer substantial conductivity. See specification page 8, lines 1-4. Further, the specification clearly states that using a top layer with a conductivity of at least about 400 ohms/square, and desirably from about 100 to about 200 ohms per square, gives satisfactory results. See specification page 8, lines 5-9.

Austin discloses a faceplate for a touch sensitive video display having electrode regions formed from a conductive transparent metal-oxide. The electrode regions are spaced apart and deposited on a base coating with a protective dielectric layer covering the electrode regions and spaces. Austin does not show or suggest a high index top layer having a conductivity of at least about 400 ohms/square formed on the conductive layer with at least the top layer and the conductive layer being patterned so as to divide the conductive layer into a plurality of discrete electrodes.

Dependent claims 19-28 depend directly from independent claim 18 and thus contain all of the limitations of the independent claim from which they depend. Therefore, these dependent

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claims are patentable over Yatabe et al. and Austin either alone or in combination, for at least the same reasons set forth above with respect to claim 18.

Applicants submit that all of the claims are now in condition for allowance, which action is requested. Please apply any charges or credits to Deposit Account No. 50-1721.

Respectfully submitted,



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